

Water Acidity

Topic: Water

Objectives: Determine water acidity

Grade Level: all (early grades will need adult help with measurements)

Time: 5 – 10 minutes

Materials: pH indicator paper and pH color chart, or pH test kit or pH pen or pH meter, beaker, writing pads, pens or pencils

Vocabulary:
acidity
pH
calibrate
acid rain

Location: Lake Clara Meer, Clear Creek

Background: Bodies of water have different characteristics. Color, flow, smell, shape, temperature, turbidity, and acidity are some of the characteristics of water. The acidity of water is measured on a pH scale. The pH of a body of water strongly influences what can live in it. In this activity you will use pH paper or a pH test kit, or a pH pen or meter to measure the acidity of Lake Clara Meer.

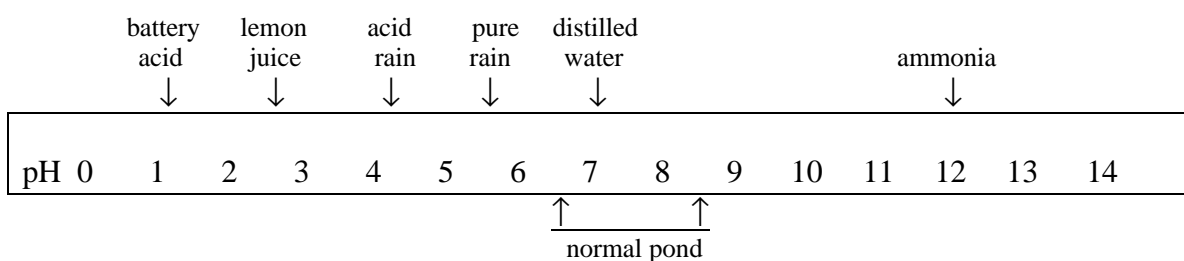
Advance Preparation: Calibrate the pH pen or pH meter.

Procedure:

1. Rinse the beaker well with the sample water.
2. Fill the beaker about half full with the water to be tested. Dip a strip of pH indicator paper into the water and leave it there for about a minute. Or follow the directions for pH testing with the pH test kit, pH pen or pH meter.
3. If you are using pH paper or a pH test kit, compare your sample color with the pH color chart. Record the pH value. If you are using a pH pen or meter, record the value on the display.
4. Repeat this procedure or have another student repeat it. Compare your measurements. If they differ, try the experiment a third time to be sure you have not made a mistake.

Questions to think about or discuss:

The pH scale ranges from 0 to 14. A value of 7 indicates a substance in which the acid and base content are exactly equal. The substance is then said to be neutral, neither acid nor base. A substance that has more acid than base content has a pH value below 7, with the lower the value the greater the acidity. pH values above 7 indicate alkalinity, or greater base than acid content. The higher the pH the greater the alkalinity.

pH Values Chart

1. How does the pH of your water sample compare with the pH chart above? Is it within the normal range for pond water?
2. Look around the lake or stream. What things do you observe that might affect pH level? What factors that you cannot see might affect the pH of Lake Clara Meer or Clear Creek?

pH Ranges of Some Aquatic Life

Aquatic Life	pH range
Bacteria	1.0 – 13.0
Plants	6.5 - 13.0
Snails	6.5 – 13.0
Catfish	6.0 – 9.0
Bass	6.5 – 9.0

3. Describe the types of aquatic life the pH level of your test site might support. What other conditions do you suppose must be present in the water for these things to live in Lake Clara Meer or Clear Creek?